

## Some Link Type Possibilities

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# JSON Link Types

- New in Base-3.16.1, some recent improvements
- Intent: Let record links use protocols other than CA, so get/put data from/to sources other than just records:

```
field(INP, {mqtt: {topic: "toaster/temperature", qos: 0}})
```

- DB files can use 'relaxed JSON' syntax, far fewer "" quotes
- A JSON link type may embed other JSON links:

```
field(SIOL, {calc: {  
  expr: "a + b*sin(c*i * pi/180); i := i<360 ? i+1 : 0",  
  args: [{db: "Vout.OVAL"}, 0.1, 10]}})
```

- The 'mqtt' and 'db' link types shown above don't exist yet, the 'calc' type does exist



# Recent Developments

- The EPICS 7 pva2pva module now provides a 'pva' link type
- 'calc' now handles output links too; expression can change the value from an output record before passing it to an embedded 'out' link:

```
field(OUT, {calc: {  
  expr: "B:=VAL*0.33 + B*0.67; B",  
  out: {http: {GET:"123.98.45.76:8080/set/%5.1f"}} }})
```

- New 'state' link type, gets/puts boolean values from/to the dbState named store that Ralph Lange added for server-side filtering in 3.15
- The new 'debug' and 'trace' link types handle setting the debug flag and tracing calls to individual links:

```
field(OUT, {trace: {calc: {  
  expr: "B:=VAL*0.33 + B*0.67; B",  
  out: {http: {GET:"123.98.45.76:8080/set/%5.1f"}} }}})
```



# Future Possibilities

## ■ Conditional link type 'if':

- Tests an input link and forwards all link operations to one of two other links ('then' or 'else') depending on the boolean result
- The test could get a value, check link connection, alarm severity, etc.

```
{if: {T: {state:"simulating"},  
      then: {calc:{expr:"..."}},  
      else: {pva:"remote-pv"} }}
```

```
{if: {C: {pva:"remote-pv"},  
      then: {pva:"remote-pv"},  
      else: {db:"local-pv"} }}
```

